

REMARKS/ARGUMENTS

The Examiner has objected to the drawing, contending that descriptive text labels are required for the blank boxes.

The Applicants thank the Examiner for his consideration of this case. Claims 1-29 are in this case. The examiner has rejected Claims 1-12 and 14-29. The Examiner states that claim 13 is directed to allowable subject matter.

A. Amendments to the Claims

Applicants have amended the independent claims 1, 20, 24 and 27 to more particularly claim the invention. In the preamble “the individual component comprising at least one part” has been added to provide antecedent basis for “at least one part”. Amendments to change certain wording from plural to singular are made to provide proper antecedent basis. The articles “a”, “an” and “the” are added to improve readability.

Support for the term “updatable” is found at para 0024, first sentence.

No new matter has been added.

B. Response to Objection to the Drawing

In the amended drawing, previously omitted descriptive text labels for the blank boxes have been added. No new matter has been added.

C. Response to Rejection of Claims 1-10, 12, 14-17 and 19-29 under 35 USC 102(b) as Being Anticipated by Martin (US 4,280,185A)

The Examiner has rejected Claims 1-10, 12, 14-17 and 19-29 under 35 U.S.C. 102(b) as being anticipated by Martin (US 4,280,185A). The Applicants have amended the independent claims 1, 20, 24 and 27, and respectfully request reconsideration of the allowability of the rejected claims in view of the amendments and the remarks that follow.

The Examiner has rejected claim 1 as stated:

Martin teaches an apparatus for recording, storing, updating, and retrieving operating, maintenance and repair information relating to individual components of turbine engines, including at least one information storage device permanently deployed on at least one individual component (64, figure 1), identification information about at least one part of the engine component (30-35, figure 1), at least one data register having data storage capabilities referenced by stored identification information of at least one part and a parameter (column 8,

lines 17-21), wherein the information storage device is accessible for retrieving recorded and stored information (column,4, lines 37-42).

Independent claims 20, 24 and 27 stand rejected based on similar arguments and reasoning.

Martin teaches providing a life tracking system for permanently recording, automatically, the identified configuration of a gas turbine engine by engine module type and serial number, and then recording of operating data regarding the identity and operating parameters and performance of the engine and its modules, allowing the keeping of a record of an engine's configuration by module and engine operation as a whole. This is appropriate for aircraft engines because of existing aircraft maintenance rules. However, in the case of non-aircraft use of turbine engines, individual engine parts are sometimes replaced during on-site maintenance. When that happens, using conventional procedures relating to the engine as a whole (and not to its component's parts), the operating and maintenance or repair history of the individual parts within a component and of the entire engine component can be lost. Consequently, logging procedures relating to the engine as a whole, such as those suggested by Martin, are incomplete and can become misleading.

Martin discloses that recording devices for keeping track of engine configurations of engine components are mounted on the individual components of a turbine engine. These serve a function similar to module identifier plates customarily used to identify individual modules. These recording devices are not shown by Martin to record any part information for an individual component or module, nor does Martin make a clear disclosure that any collected information is stored on the module itself. (See Martin Figure 1, column 4, lines 8-13 and 37-42, and column 8, lines 17-27).

In the rejection of independent Claim 1, 20, 24 and 27, the Examiner has stated that the elements 30-35 shown in Fig. 1 of Martin disclose "identification information about at least one part of the engine component". The Applicants have reviewed the disclosure of Martin, but can not identify any description that relates to "at least one part" of the engine component. Applicants believe that the Examiner needs to particularly identify the language in the description that discloses "at least one part" of the engine component, in order to substantiate the rejection. If the Examiner can not identify in the disclosure of Martin that the identity information relates to a part of the component or module of the engine, then Applicants contend that the rejection must be withdrawn entirely.

More particularly, the Applicants contend that Martin does not address recording information regarding a part or parts of the engine module, or of their performance, and does not suggest periodically storing the component part's information on the component itself. The information gathered by Martin and to which Martin refers is information unrelated to tracking individual parts and that is stored in a different way in a different location for a different purpose than is described by the application.

Martin also does not teach or suggest an apparatus for recording, storing, updating and retrieving operating, maintenance, and repair information relating to a part comprised on an individual component or module of a turbine engine. Martin does not teach permanently placing a recording device for tracking the part history of a part or parts comprised on a turbine engine module or component of the engine. Martin also does not describe a method for recording data on maintenance of or replacement of a part comprised on the individual engine component or module.

As claimed, the present invention teaches [at paragraph 0015, lines 7-12] that

Each information storage device records and stores the repair, operating and maintenance history of the individual parts present in the engine component by storing the status (i.e. the contents) of data registers present in the information storage device and is periodically updated by onboard or remote devices. The information can also be updated by maintenance or repair personnel when the engine component undergoes maintenance or repair.

Further, Martin does not teach recording the part performance or part history of a part that is comprised on a module of a turbine engine. Martin also does not address life limited parts.

The present invention addresses the issue of and claims keeping track of and recording information related to the individual parts that are comprised on a module, and provides an apparatus and method for recording and retrieving maintenance, operating and repair data for the parts that are comprised on the individual components of a turbine engine.

Applicants respectfully request allowance of the rejected claims as amended and in view of these remarks.

D. Response to Rejection of Claims 11 and 18 under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Vogan et al. (US 5,968,107A)

Regarding claims 11 and 18, the Examiner has rejected Claims 11 and 18 under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Vogan et al. (US 5,968,107A). The Applicants respectfully traverse the rejection of Claims 11 and 18.

Applicants contend that the rejection should be withdrawn in view of the amendments to the claims and the remarks that follow.

Applicants note that the distinction in scope between Martin and the presented invention as claimed has been shown above.

Applicants contend also that the Vogan reference is not a proper reference, since the examiner has not shown any disclosure or suggestion in Martin to combine the disclosure of Vogan, and that the only possible motivation may be the Applicant's own disclosure.

Vogan measures only overall engine parameters, and looks for operating peculiarities in the overall operation of the engine to predict failure of the engine. Though Vogan does refer to replacing pieces of the engine (column 1, lines 18-27), he does not record, store, update or retrieve information regarding the individual parts that are comprised on the internal combustion engine. Rather, he records overall engine operating information (column 2, lines 29-38) and projects engine performance based on it. In column 2, lines 39-56, he describes a method for engine parameter trending. In neither case does he teach or suggest monitoring individual engine parts or recording, storing, updating and retrieving operating, maintenance and repair information relating to the individual parts that comprise the engine. In addition he does not (and Martin does not) use information gathered regarding individual parts of the engine to project the future maintenance requirements of their engines or even component level performance of their engines. Neither reference discloses nor suggests recording, storing, updating or retrieving information regarding the individual parts that comprise an engine.

Even if, only for the sake of argument, the disclosures of Martin or Vogan were to be combined, the combined reference would not disclose or suggest the present invention as claimed, since neither reference addresses or suggests recording, storing, updating or retrieving operating, maintenance, and repair information on an information storage device regarding individual parts of an engine component or module, and deploying the storage device on the engine component or module.

Applicants respectfully request allowance of the rejected claims as amended and in view of these remarks.

E. Conclusion

It is believed that the above represents a complete response to the Examiner's rejections and places the application in condition for allowance. Accordingly, reconsideration and allowance of Claims 1-29 is respectfully requested.

Applicants would appreciate the courtesy of a phone call should the Examiner have questions or comments with respect to this response.

Respectfully submitted,

For: Joshi et al.

By:



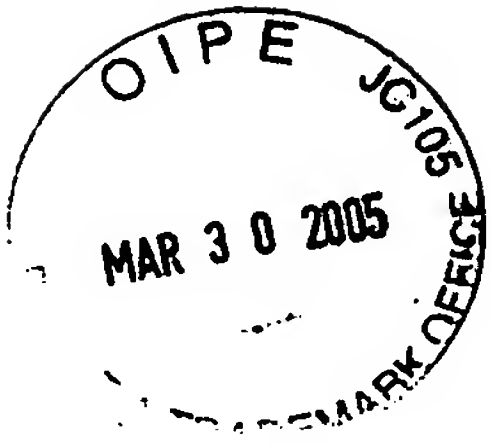
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Amendments to the Drawing:

The attached replacement sheet includes changes to the drawing, and replaces the original drawing sheet. The changes include the descriptive text labels for box.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes



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